CS305 – Programming Languages
2024-2025 Fall
Syllabus

Version 2

Instructor

Name : Hüsnü Yenigün
Lectures : Monday 09:40-10:30 UC G030
Wednesday 14:40-16:30 UC G030
Office Hours : TBA

TAs

Name : Osman Kara
Office Hours : TBA

Name : Süleyman Onur Doğan
Office Hours : TBA

Textbooks

[1] "Programming Languages: Concepts and Constructs" by Ravi Sethi
[2] "Concepts of Programming Languages" by Robert W. Sebesta
[3] "Comparative Programming Languages" by Leslie B. Wilson and Robert G. Clark
[4] "Programming Languages: Principles and Paradigms" by Allen Tucker and Robert Noonan
[5] "Essentials of Programming Languages" by Daniel Friedman, Mitchell Wand, and Christopher T. Haynes

Note: A lecture notes document prepared based on the references above will be provided.

Grading

- Midterm (35%) Date: TBA
- Final (40%) Date: TBA <<<<<<<<<<<<<< **MUST SCORE AT LEAST 30**
- Make-up Date: TBA [after the final exam]
  - Make-up Policy: If you miss *exactly one of* the midterm or final exam, and if you have a valid excuse (e.g. a medical condition, an official university event participation, etc.), then you can take the make-up exam. In this case, the grade of the make-up exam counted as the grade of your missing exam. The make-up exam can be an oral exam, a written exam, or both.
- Homeworks (25%) 5-7 homeworks (mostly programming homeworks)

Tentative Outline

Week 01: Introduction, Describing Syntax and Semantics of Programming Languages

Week 02: Flex and Scanner Implementation

Week 03: Context Free Grammars

Week 04: Bison and Parser Implementation

Week 05: Abstract Syntax Trees, Semantic Analysis

Week 06: Expressions, Types and Type Checking, Statements, Scoping Rules

Week 07: Subprograms – Referencing Environments, Parameter Passing

Week 08: Subprograms – Activation Records

Week 09: Functional Programming – Expressions, Procedures

Week 10: Functional Programming – Data types

Week 11: Functional Programming – Interpreters

Week 12: Logic Programming – Relations, Rules/Facts, Inferencing

Week 13: Logic Programming – Unifications, Programming Techniques

Week 14: Parallel Programming